

REMARKS

Claims 1, 4, 5 8-11 and 13-15 are pending in this application. By this Amendment, claims 2, 3, 6, 7 and 12 are canceled without prejudice to or disclaimer of the subject matter recited therein. Claims 1, 4 and 5 are amended. No new matter is added.

Applicants appreciate the courtesies extended to Applicants' representative during the personal interview conducted on July 1, 2003. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

Information Disclosure Statement

An Information Disclosure Statement letter citing U.S. Patent Application 09/773,632 was filed in the U.S. Patent and Trademark Office on November 21, 2001. Applicant has not yet received notification that the reference was considered. Applicant respectfully requests acknowledgement of receipt and consideration of U.S. Patent Application 09/773,632.

Address Change

Applicant requests all further communications regarding this application be forwarded to Oliff & Berridge, PLC in accordance with the Notice Regarding Power of Attorney mailed on March 22, 2002.

Rejections Under 35 U.S.C. §112

Claims 1-7 and 12 are rejected under 35 U.S.C. §112, first paragraph and 35 U.S.C. §112, second paragraph. As claims 2, 3, 6, 7 and 12 are canceled, the rejections of those claims are moot. Claims 1, 4 and 5 are amended in reply to the rejections. Accordingly, Applicant respectfully requests the rejections of claims 1-7 and 12 under 35 U.S.C. §112, first and second paragraphs, be withdrawn.

Applicant asserts that support for the subject matter recited in claims 1, 4, and 5 may be found throughout the specification. For example, the irregular segments 236, 234 and 235 are segments to form a stator winding. The irregular segment 236 includes a jumper

connection Xa, the irregular segment 234 includes an output lead Xb, and the irregular segment 235 includes a lead Xc for providing the neutral point (see page 9, lines 18-24 and Figs. 6-9 of the specification). Thus, the irregular segments are segments other than the regular segments as shown in Fig. 2, for example. Therefore the irregular segments can have both portions housed in the body of the stator core end portions extending through the core. The irregular segments can also extend through the core or lie on both axial sides of the core in a manner similar to the regular segments. The irregular segments may be connected to the regular segments in the same manner at the joining portions.

The Office Action alleges that claims 1-7 and 12 contain subject matter which was not described in the specification in such a way to reasonably convey to one skilled in the relative art that the inventors had possession of the claimed invention at the time the application was filed. For example, the Office Action alleges that the line of demarcation separating the "regular segment" from the "irregular segment" is not clear. The Office Action also includes numerous questions regarding the location of the regular and irregular segments. Applicant respectfully disagrees with the Office Action.

Applicant asserts that the specification provides ample support for the subject matter recited in the rejected claims. For example, each phase winding X, Y and Z has two winding sections, e.g., X1 and X2, which are made of the regular segments 231 and 232. Each of the phase windings X, Y and Z has the irregular segment 236 for providing a connection between the winding sections and the irregular segments 234 and 235 for providing the output terminal and the neutral connection. The segments 230 are arranged on the stator coil 2 so as to dispose the output leads and the neutral connections on the first end. Referring to Figs. 7, 8, 9 and 10, the output leads Xb, Yb, Zb, Ub, Vb, and Wb and the neutral connections N1 and N2 are arranged on the first coil end group 23a and are disposed on a cooling air passage.

The winding sections X1 and X2 are connected via a jumper connection Xa which is provided on the irregular segment 236 in the 40th and 34th slots. The other end of the winding section X1 is connected to the output lead Xb which is the irregular segment 234 in the 40th slot. The other end of the winding section X2 is connected to a neutral lead Xc for providing the neutral connection N1 which is the irregular segment 235 in the 34th slot. The other phase windings are connected in the same manner (see page 9 of the specification and Figs. 6-10).

Additionally, in another embodiment, the jumper connections, e.g., Xa, may be provided by joining a pair of I-shaped segments similar to the segments 235 and 236 instead of the U-shaped segment 236. The output leads and the neutral connections may be formed on the second coil end group 23b (page 10 of the specification). Thus, the rejected claims contain subject matter which is described in the specification in a way to reasonably convey to one skilled in the relevant art that the inventors had possession of the claimed invention at the time the application was filed.

The Office Action also states that it is not clear at which point during the construction the insulation was applied. However, as a method of applying insulation is not claimed, nor is there a claim of the order of applying insulation to the segment types. Thus, Applicant asserts that the questions are not germane to the examination of the claims. Furthermore, the insulation may be applied to the regular and irregular segments before or after insertion into the core and the second insulation layer may be applied to the irregular segments before or after the insertion, for example.

Rejection Under 35 U.S.C. §102

Claims 1-8, 11 and 12 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent 5,712,517 to Schmidt et al. ("Schmidt"). Claims 2, 3, 6, 7 and 12 are canceled. Thus, the rejection of those claims is moot. Applicant traverses the rejection of claims 1, 4, 5, 8 and 11.

Applicant asserts that Schmidt does not disclose a rotary electric machine, comprising ... a plurality of regular segments regularly arranged to provide a main portion of the stator winding a plurality of irregular segments disposed to provide connections of the regular segments to form the stator winding and output leads, each of the regular segments having a turn portion disposed in the first coil end group and a pair of joining portions disposed in the second coil end group.

As shown in Figs. 1-4, Schmidt discloses a continuous wire stator winding 30 having a plurality of lead wire pairs 32, 34, 36, 38, 40, and 42 extending from each of the stator coils. Therefore, the stator winding of Schmidt is entirely different from that recited in the rejected claims.

Furthermore, because Schmidt discloses a continuous wire type stator winding, Schmidt does not disclose a stator winding with a first coil end group on an axial end thereof and a second coil end group on the other axial end. Additionally, the stator winding of Schmidt does not include a plurality of regular segments regularly arranged to provide a main portion of the stator winding, each of the regular segments having a turn portion disposed in the first coil end group and a pair of joining portions disposed in the second coil end group.

The Office Action further alleges that it is inherent that all segments are insulated and that the insulation sleeve 80 disposed in Schmidt forms a second insulating layer. However, Schmidt specifically teaches away from providing the insulator sleeve 80 on the stator lead wires. For example, Schmidt "eliminates the need for providing the insulator sleeves 80 on the stator lead wires by coating the stator windows 16, 18, 20, 22 and 24 with an epoxy resin insulating coating 90" (col. 3, lines 58-61). Accordingly, Schmidt teaches away from providing a second insulating layer covering at least a portion of the irregular segments, wherein the second insulating layer has a higher insulation performance than the first

insulating layer. Thus, Applicant respectfully requests the rejection of claims 1-8, 11 and 12 under 35 U.S.C. §102(b) be withdrawn.

Rejection Under 35 U.S.C. §103

The Office Action rejects claims 9 and 10 under 35 U.S.C. §103(a) as unpatentable over Schmidt in view of U.S. Patent 5,917,155 to Hake et al. ("Hake"). The rejection is respectfully traversed.

Applicant asserts that claims 9 and 10 are allowable for at least their dependency on independent claim 1 for the reasons discussed above, as well as for the additional features recited therein.

Furthermore, as Schmidt expressly teaches away from providing a second insulating layer, there is no suggestion in Schmidt to make the combination as provided in the Office Action. Accordingly, Applicant respectfully requests the rejection of claims 9 and 10 under 35 U.S.C. §103(a) be withdrawn.

New Claims

Applicant asserts that neither Schmidt nor Hake, whether considered alone or in combination, disclose or suggest all of the features recited in new claims 13-15. For example, the applied references do not disclose or suggest a stator winding with a first coil end group on an axial end of the stator core and a second core end group on the other axial end therefor wherein the stator winding includes a plurality of regular segments mounted in the stator core in a regular pattern to provide a main portion of the stator winding and a plurality of irregular segments mounted in the stator in different patterns to provide connections of the regular segments to form their stator winding in the output leads, wherein each of the regular segments having a turn portion disposed in the first coil end group and a pair of joining portions disposed in the second coil end group in wherein at least a portion of

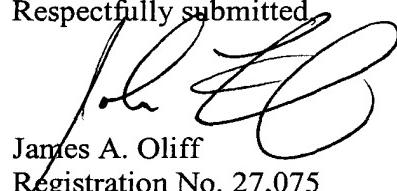
the irregular segments is covered with an insulating layer of higher insulation performance than another insulation layer that covers the regular segments.

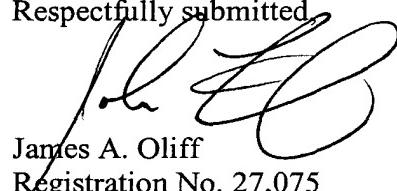
Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 4, 5 8-11 and 13-15 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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